

English Abstract for DE2018353 (FR2043403)

Abstract :

DE2018353 A

Infra red radiation falling onto a crystalline phosphor is converted into visible radiation without the application of a voltage.

The phosphor is a stoichiometric mixture of oxyhalide crystals of the form M_1R_4 , M_2X_2 where M_1 is a monovalent metal and M_2 is a divalent metal. The mixture must contain 5% of the cation Yb^{+++} . When the phosphor is irradiated with infra red containing the absorption spectrum of ytterbium, visible light is emitted. The conversion uses two energy levels in the phosphor layer, producing different emission waves. The phosphor mixture can also contain the ion pairs $YbEr$, $YbHo$ and $YbErHo$ all as trivalent cations where the erbium is present at 1/16% and the holmium as 1/50% of the unit cell group.